

What is claimed is:

1. An organic EL device, comprising:

a thin film transistor (TFT) array substrate including a first insulating substrate, a TFT and a capacitor formed on the first insulating substrate; and

an organic EL substrate including a second insulating substrate, a transparent electrode, an organic EL layer and a metal electrode,

wherein the TFT is electrically connected to the metal electrode.

2. The device of claim 1, wherein the TFT array substrate further includes a conductive interface pad connected to the TFT, the conductive interface pad directly contacting the anode electrode of the organic EL substrate.

3. The device of claim 2, wherein the organic EL substrate further includes a protection film that prevents external oxygen and moisture from permeating.

4. The device of claim 3, wherein the protection film is formed by depositing a SiNx layer and a SiO₂ layer at least once.

5. The device of claim 4, wherein the TFT array substrate and the organic EL substrate are sealed by a UV-curable agent.

6. The device of claim 1, wherein the TFT array substrate further includes a conductive interface pad connected to the TFT and a conductive bump pad formed on the conductive interface pad, the conductive bump pad contacting the metal electrode of the organic EL substrate by a conductive bonding agent.

7. The device of claim 6, wherein the conductive bonding agent is an anisotropic conductive film (ACF).

8. The device of claim 7, wherein the anisotropic conductive film serves to prevent external oxygen and moisture.

9. The device of claim 1, wherein the TFT array substrate further includes a conductive interface pad and a conductive bump pad formed on the interface pad, and the organic EL substrate further includes a polymer bump, wherein the conductive bump pad contacts a portion of the metal electrode corresponding to the polymer bump by a conductive bonding agent.

10. The device of claim 9, wherein the conductive bonding agent is an anisotropic conductive film (ACF).

11. The device of claim 10, wherein the anisotropic conductive film serves to prevent oxygen and moisture from permeating through the second insulating substrate.

12. The device of claim 1, wherein the transparent electrode, the organic EL layer and the metal electrode are sequentially stacked on the second insulating layer.

13. A method for manufacturing an organic EL device, comprising steps of:
providing a thin film transistor (TFT) array substrate including a TFT and a capacitor formed on a first insulating substrate;

providing an organic EL substrate including a transparent electrode, an organic EL layer and a metal electrode; and

sealing the TFT array substrate and the organic EL substrate to electrically connect the TFT of the TFT array substrate to the metal electrode of the organic EL substrate.

14. The method of claim 13, wherein the TFT array substrate further includes
5 a conductive interface pad connected to the TFT, the conductive interface pad directly contacting the metal electrode of the organic EL substrate.

15. The method of claim 14, wherein the organic EL substrate further includes a protection film that prevents external oxygen and moisture from permeating.

16. The method of claim 15, wherein the protection film is formed by
10 depositing a SiNx layer and a SiO₂ layer at least once.

17. The method of claim 16, wherein the TFT array substrate and the organic EL substrate are sealed by a UV-curable agent.

18. The method of claim 13, wherein the TFT array substrate further includes
15 a conductive interface pad connected to the TFT and a conductive bump pad formed on the conductive interface pad, the conductive bump pad contacting the metal electrode of the organic EL substrate by a conductive bonding agent.

19. The method of claim 18, wherein the conductive bonding agent is an anisotropic conductive film (ACF).

20. The method of claim 19, wherein the anisotropic conductive film serves to prevent external oxygen and moisture from permeating through the second insulating substrate.

21. The method of claim 13, wherein the TFT array substrate further includes a conductive interface pad and a conductive bump pad formed on the interface pad, and the organic EL substrate further includes a polymer bump, wherein the conductive bump pad contacts a portion of the metal electrode corresponding to the polymer bump by a conductive bonding agent.

22. The method of claim 21, wherein the conductive bonding agent is an anisotropic conductive film (ACF).

23. The method of claim 22, wherein the anisotropic conductive film serves to prevent external oxygen and moisture from permeating through the second insulating substrate.

24. The device of claim 13, wherein the transparent electrode, the organic EL layer and the metal electrode are sequentially stacked on the second insulating layer.